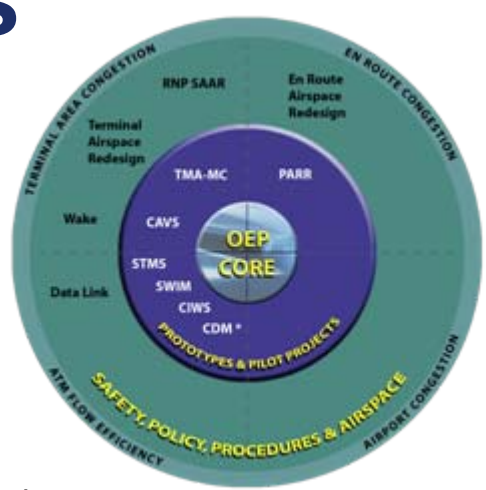
OEP Technology Development Ring

Federal Aviation Administration

May 2006

Prototypes & Pilot Projects Transition Ring



- **Transition Manager**
  - Ken Leonard, ATO-P Acting Director of Technology Development
- **Purpose**
  - Monitor the progress of promising capacity enhancement initiatives that are under technical development or do not have a firm implementation schedule.
- **Initiatives & Program Lead**

New – Advanced Continuous Descent Arrival (CDA), *James McDaniel*

New – Route Availability Planning Tool (RAPT), *Danny Simms*

- CDTI-Assisted Visual Separation (CAVS), *Jim McDaniel*
- Corridor Integrated Weather System (CIWS), *Raymond Moy*
- Surface Traffic Management System (STMS), *William Hall*
- System-Wide Information Management (SWIM), *John Loynes*
- Traffic Management Advisor–Multi-Center (TMA-MC), *Steve Bradford*

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New Initiatives

- **Advanced Continuous Descent Arrival (CDA)**
  - Procedures provide a vertical flight profile with engine idle operations from top of descent to runway touchdown. The Advanced CDA procedures offer reduced landing time, fuel burn, engine emissions, and noise. Advanced CDA utilizes Merging and Spacing (MS) and ADS-B capabilities to achieve desired spacing between aircraft to achieve arrival optimization.

- **Route Availability Planning Tool (RAPT)**
  - A prototype tool operating in the New York area. RAPT integrates CIWS convective and echo top forecasts with existing planned departure routes. RAPT allows ATC users to use existing and future gaps in weather. RAPT improves departure management and collaboration by providing common situational awareness in both the Terminal and En Route environments. RAPT identifies opportunities for departure paths to fly over, around, or between convective weather. Funding for RAPT begins in FY07.

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Continuing Initiatives

- **Cockpit Display of Traffic Information Assisted Visual Separation (CAVS)**
  - Utilizes cockpit displays of traffic information to improve a pilot's airborne situational awareness for visual spacing applications. The objective is to enable VMC approach operations to continue in weather conditions which now require IFR.
- **Corridor Integrated Weather System (CIWS)**
  - A prototype system that provides traffic flow managers with comprehensive convective weather data needed for tactical modifications and which significantly improves short-term convective weather decision-making.
- **Surface Traffic Management System (STMS)**
  - A decision support tool that provides better surface surveillance information to air traffic controllers and air traffic managers, which improves efficiency in low visibility conditions.

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Continuing Initiatives

- **System Wide Information Management (SWIM)**
  - Will provide the infrastructure, standards and procedures needed to conduct network-enabled operations in the NAS so that precise information is available in the right format and at the right time to all authorized users.

- **Traffic Management Advisor-Multi Center (TMA-MC)**
  - A decision support tool that will provide enroute controllers and traffic management coordinators with a single, coordinated spacing plan that maximizes traffic arrivals across multiple facilities.

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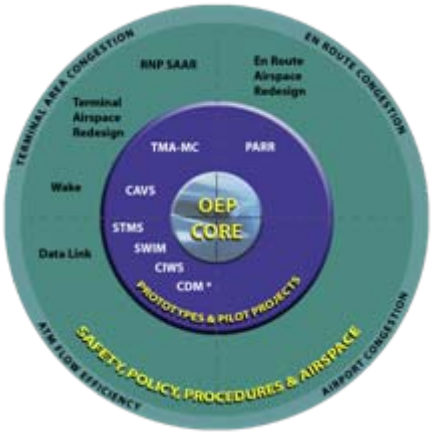
Entry Criteria



	Reasonable estimate of all implementation costs exists and the project is expected to be affordable by all parties involved	Reasonable estimate of benefits exists	Risks appear to be manageable	There is both an FAA operations and an operating user champion (who is a representative of the users in general as opposed to a single element of the	Any necessary policy either exists or is being worked on as part of the project	Existing/proposed policy has been evaluated for	There is a reasonable schedule estimate of when the benefits will accrue if events go well, and the schedule starts within the next 10	The change is consistent with the current or the planned future ops concepts	The effort is in field trial or field evaluation or has specific plans for field trial or field	
Advanced Continuous Descent Arrival (CDA)	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	YES	YES	New
Route Availability Planning Tool (RAPT)	YES	YES	YES	YES	YES	YES	YES	YES	YES	New
Cockpit Display of Traffic Information Assisted Visual Separation (CAVS)	YES	YES	YES	YES	UNKNOWN	UNKNOWN	YES	YES	YES	
Corridor Integrated Weather System (CIWS)	YES	YES	YES	UNKNOWN	YES	YES	YES	YES	YES	
Surface Traffic Management System (STMS)	YES	YES	YES	YES	YES	YES	YES	YES	YES	
System Wide Information Management (SWIM)	YES	YES	YES	YES	YES	YES	YES	YES	YES	
Traffic Management Advisor-Multi Center (TMA-MC)	YES	YES	YES	YES	YES	YES	YES	YES	YES	

***UNKNOWN*- Most prototype technologies have multiple alternatives and phases which are evaluated during the development process. Until we have a record of decision identifying a specific solution we will report